

# The Watershed

Vol. 5, No. 2

The Oyster Pond Environmental Trust Newsletter  
OPET, P.O. Box 496, Woods Hole, MA 02543-0496

Winter 2000

OPET does not have a phone to its name, but you can call 508-540-7345 and leave a message. We'll gladly get back to you! Or e-mail us at [jdavis@genetics.mgh.harvard.edu](mailto:jdavis@genetics.mgh.harvard.edu) or at [brose@cape.com](mailto:brose@cape.com). And do visit our website, [www.opet.org](http://www.opet.org)!

## OPET Officers and Directors Elected for the 2000/2001 Term

(No lawsuits or recounting of ballots in this election!)

Officers	Directors
Jonathan Davis	Eric Davidson
Birgit Rose	John Dowling
Co-Presidents	Lisa Graziano
Melinda Hall	James P. Ferguson
Vice President	Christine Gault
Patricia Kerfoot	Robert King
Clerk	Leonard Kreidermacher
Barry Norris	Robert Livingstone
Treasurer	Julie Rankin
Dana Rodin	Robert Wilsterman*
Legal Counsel	

OPET Board meetings are open to all OPET members. Meetings are usually held once a month on a Sunday, at 4 pm in the Treetops Clubhouse.

We'd love to have you come!  
For information call 508-540-7345

**In Memoriam.** OPET Life Member *Friederun Jannasch* passed away in June. Friederun and her husband Holger had a special interest in Oyster Pond: in the 1960s they purchased 13 acres stretching from Oyster Pond Rd to the Oyster Pond shore at Fells and Ransom Rd. The path connecting Fells and Ransom Rd runs across this property. In 1995, they donated the acreage to WHOI. Both Jannasches had a keen interest in preserving the beautiful nature of Cape Cod and they generously helped to secure the Zinn Park for conservation. Friederun was an architect and potter. Her ceramics expressed her strong originality and often featured local materials such as Nobska Beach sand. She loved to take long walks and her delight in the wonders of Nature never ceased.

## Great News: OPET Has Paid Off its Debt!

What a great way for us to end this millennium!!!! We really have done it! The title to the 7 acres of what used to be referred to as the Fisher parcels and later was named the Eleanor Blevins Zinn Memorial Park, now is ours, free and clear! Donations to the Land Conservation Fund by generous OPET members have allowed us to pay off the last cent of the debt, and OPET's Board has heaved a deep and long sigh of gratitude and relief when the Treasurer reported: outstanding debt balance is \$0.00! Gratitude to all those donors, and relief not just because finally this goal was reached but also because the Board now no longer needs to listen to those persistent admonishments by the Treasurer in each and every meeting: 'you know, we're paying 10% interest, so we better find the money soon! Well, now we won't be needed any more and can begin the new millennium debt free! Thank you so much, all you generous donors!



The new sign at the entrance to the Zinn Memorial Park on Ransom Rd  
The sign is a gift of Mr. and Mrs. Kerfoot of Ransom Road

Photo by B. Rose

**Eleanor Blevins Zinn Memorial Park Renamed Zinn Memorial Park.** Before OPET was founded and incorporated as a not-for profit, 501(c) 3 charitable organization, Oyster Pond Trust had raised monies for the purchase of the Fisher parcels. Donation pledges were received in memory of Donald Zinn's wife Eleanor, who had then just died, and the land tract thus was named in her honor. In 1995, OPET incorporated and took over the debt on the land and has since raised the funds to completely amortize the debt. In 1997, Don Zinn, passed away, too. Don was a strong supporter of OPET, and an avid nature lover, active in various local conservation efforts. Many donations to OPET's land conservation fund were received in his memory. To also honor Don and his contributions to nature conservation in Falmouth, OPET renamed the park to "Zinn Memorial Park".



# Focus on Invasives on the Pond

## *Fact: Nature never stands still.*

As much as we humans often wish to preserve the status quo, remembering with nostalgia how things were back when, Nature marches on at her own pace. And so, with time, our environment changes: meadows and clear-cuts are swallowed by brush, brush becomes invaded by trees, and tree types change as forests mature. Marshes and ponds are no exception to this rule of change. Especially when water quality is altered by human activity, the change can be rapid. High nutrient levels may allow some species to suddenly become invasive, displacing those that could thrive at lower nutrient levels. Two such species have become dominant parts of the landscape on Oyster Pond: the Phragmites reed and purple loosestrife.



Phragmites reeds

Photo by R. Livingstone

The Shining Sea bike path between Elm Road and Surf Drive along the southern Oyster Pond shore provides a good example of how rapidly some species can take over a landscape. About 6-7 years ago, from almost anywhere along this stretch, a walker had a clear view of the pond all the way across to the Oyster Pond Rd and Fells Rd shore, to Spohr Gardens, to the Ransom Rd and Treetops shore. Bay berry bushes, beach roses and poison ivy and wild flowers comprised most of the vegetation close to the path, and low native reeds grew at the water's edge. Three years ago, bikers could still see the pond for a good portion of this stretch, but walkers no longer could see over the tall reeds that began to invade the shoreline from both the east and west. This year, even bikers get a brief glimpse of the pond only where the bench is located. For the rest of the shore, a monoculture of the tall Phragmites reeds, their pretty plumes gracefully rustling in the breeze, blocks the view. And through this one remaining window to the pond, in midsummer, you can see the eastern shore ablaze with the intense purple candlesticks of another invasive plant, purple loosestrife. A very picturesque sight it is, indeed, this purple splendor. The marsh along Oyster Pond Rd, formerly vegetated by cat tails and other native marsh plants, is in the process of being completely taken over by this pretty plant.

OPET is wondering whether the massive invasion of these species represents a threat to the ecological balance of Oyster Pond. Elsewhere, including on the Cape, programs are in place to control these plants' growth. OPET has formed a committee to study the problem. Jason Hyatt, a pond resident and MIT graduate student at WHOI, has volunteered to head the committee, and will start by surveying and documenting the extent of Phragmites growth in Oyster Pond.

**We encourage any of you to join in this effort, if you feel you have knowledge or time to contribute. We are especially interested in photos of yesteryear of the pond shoreline to assess the time course of change. If you have any of those, please contact Jason at [jhyatt@whoi.edu](mailto:jhyatt@whoi.edu) or OPET at any of the other contacts listed on the first page of this Newsletter.**



Phragmites reeds close to the bikepath/Surf Dr junction in 1998  
The sign was donated by FACES

Photos by B. Rose



Phragmites reeds have taken over the shoreline in 2000. Photo was taken at nearly the same location as in photo at left. The sign had been moved shoreward and eastward several yards after vandals had knocked it over. The juniper (?) tree on left is the same as the one in 1998 photo





The other pretty plant that has taken over large areas of the Oyster Pond shoreline is purple loosestrife. You can see the forward march of this plant in progress in the marsh along Oyster Pond Rd between Surf Dr and Fells Rd. This marsh featured mainly cat tails years ago. Now, less than half of the marsh is cat tail territory, the rest having been taken over by purple loosestrife, a plant requiring higher levels of nutrients. The latter are supplied by us watershed residents via our septic systems and fertilizers. The third plant *OPET* worries about is the pond weed that grew so abundantly last summer, filling entire coves (see also story below). *OPET* has made some inquiries of whether and how this plant mass could be removed. *OPET* is waiting to see whether the increased salinity we are hoping for from the Trunk River repair will discourage its exuberant growth. The primary cause for its overabundance is, again, the high nutrient level in the pond. It always comes back to our septic systems: until we can control nutrient leakage from them, we will continue to face challenges to the pond's well-being.

Purple loosestrife along Oyster Pond shore Photo by B. Rose

## Pond Samplings

**Weed and Fish Tales** This year we can't complain about drought during the summer. There was plenty of rain, but also plenty of nice weather to enjoy all sorts of activities on the pond. These included swimming, although in many portions of the pond one had to search for the water: pond weeds had grown so thick, it was like swimming in a pot of angel hair spaghetti! Long strands of green filaments trailed from head and hands, wrapped around the legs and softly stroked the body that plowed its way through them to reach a stretch of clearer water. Not that it was much easier for the boaters! Rowing or paddling out of a pond weed-choked cove definitely was a muscle-building

pastime and an exercise in patience: not much headway there! There was no question about productivity of the pond this summer. Not only megatons of weeds grew from way deep down to all the way up to the surface. There was also an abundance of fish. In fact, some evenings it was a magical sight. The pond surface was alive with tiny silver flashes darting from and back into the water; it sounded and looked like big, big rain drops hitting the pond and yet, the sky was clear, the sun just down and the moon promising to soon be on the scene. The silvery sounds came from a myriad of small fish -- alewife most likely -- leaping for tiny insects on and above the calm water's surface. It was a special treat to get an otter's eye view of all this activity, by swimming in its midst. Then the silver flashes were tiny rockets shooting up from the water all around only to plunge back into it a fraction of a second later. So many fish! Indeed, one day, standing at my dock, I observed an unending stream of alewife passing by at the rate of about 10 per second (yes, I timed them, I counted them, timed and counted them again) for 15 minutes, at which time I, but not the fish got bored. That's about 9,000 of them having paraded by in 15 min. (Yes, it's possible that they made a big, big circle and passed by me, laughing, several times! Thanks, thought of that myself! But, hey, why not be gener-



This critter LIKED the weeds!



One pull with the oar! Photo by B. Rose

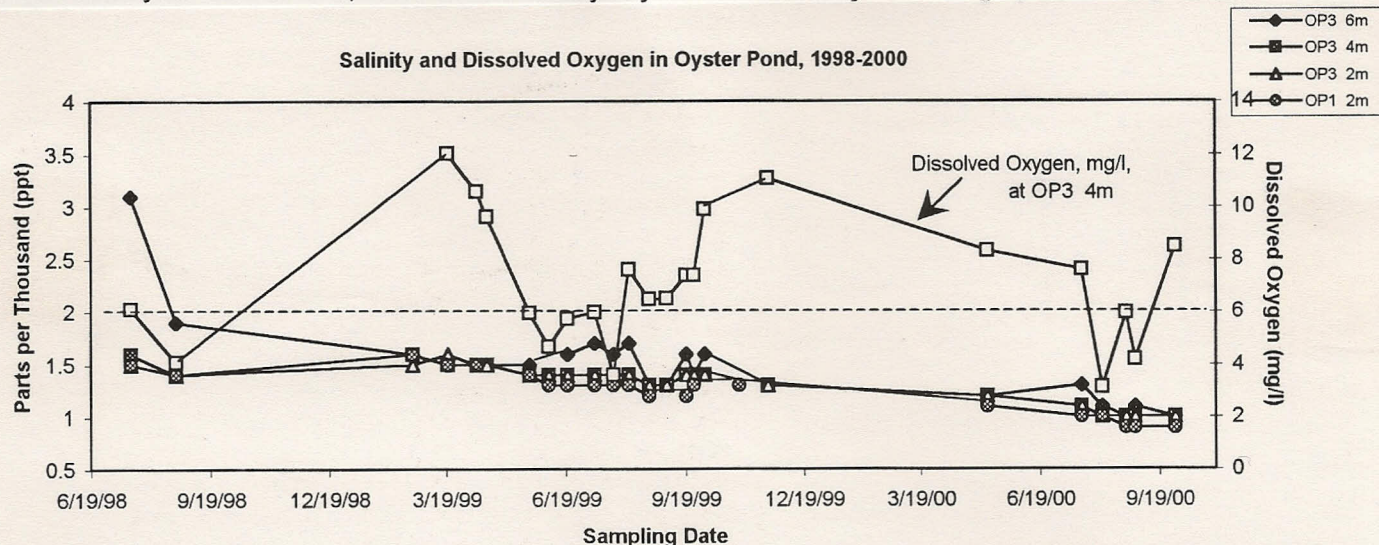
ous?) Another day, another count. Standing by the weir in autumn, looking down into the swarming (that's a new, space-saving word, meaning squirming and swimming) mass of young alewife flitting back and forth across the boards of the weir, I made another estimate of the number of fish in that channel at that moment. Assume the channel to be 30 ft long, 5 ft wide and 2 ft deep, there'd be 300 cubic feet of water (an underestimate, I bet). As far as my eye could reach, I saw at least 50 fish/cubic foot, yielding 15,000 alewife /alehusband (let's be fair) in the channel just then, minus the few that were snapped up by eels right under my nose!

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## More Serious Pond Samplings

**Salinity and Oxygen.** Of course, *OPET* monitored salinity and dissolved oxygen during the past year. Due to the still silted-in Trunk River, the pond level has been 6 inches or more too high, and hence there was basically no saltwater inflow into Oyster Pond. Salinity is down to 0.9 to 1 parts per thousand (ppt) throughout the pond and down to 6 m depth. The desired level is 2 - 4 ppt. The low salinity and consequent lack of stratification allowed good oxygenation of the pond for most of the year down to 4 m, even 5m after windy days. Shall we bore you with a graph? Indeed, we will:



Measurements were taken in the mornings between 9 am and noon with a Yellow Springs Instruments Model 85 temperature-conductivity (salinity)-dissolved oxygen probe. The instrument was calibrated before each sampling set, that is for all data on a given day, to 100% dissolved oxygen at sea level and ambient temperature, according to manufacturer's instructions. Readings are corrected for temperature.

The stippled line represents the lower limit (2 ppt) of the salinity range of 2-4 ppt desired by our pond management plan. The line also shows the upper limit of dissolved oxygen levels observed in Oyster Pond at 3 m depth in 1994. Out of 57 measurements during that summer, only 5 had readings at or above 6 mg/l (source: *A Coastal Pond* by K.O. Emery, Publ. *OPET*, 1997; p.94). In contrast, since 1998, only 6 readings were below that level and that at greater depth to boot (4m). The better oxygenation of Oyster Pond is due to the pond's reduced salinity (between 1 and 1.5 ppt in above graph, compared to 8-12 in 1994 (source: *ibid.*, p.95)).

### Fecal Coliform Bacteria

The Safe Swimming limit is 200 colony counts per 100 ml pond water. We did not find counts of that magnitude in the pond last summer. For shell fishing, the limit is 15 counts per 100 ml. Well, no shell fishing in Oyster Pond anyway. But, just to make you feel good, you should know that the pond did not exceed the shell fishing limit, except after rain storms. How come, since in previous years we quite often had counts in the range of 40-50 and varying widely from location to location? Well, now we sample from a boat and no longer from shore or docks, where ducks, geese and swans may hang out and leave their calling cards. And we found the counts in Oyster Pond water were less than 15 per 100 ml, except for days after rain. Then the highest counts were 165 per 100 ml. The southern basin didn't reach 50 counts even then! It's well known that storm runoff

from roads is a major source of such contamination, and is a headache for the shell fish industry that faces state-mandated closings of their shell fish beds when counts are above the 15 per 100ml limit. For this reason, moneys have been available for building storm runoff catchment basins that settle out the bacteria before the runoff reaches pond, stream or bay. The northern portion of Oyster Pond has higher counts than the southern basin, and *OPET* aims to study whether and where storm runoff impacts the pond (Ransom Rd and Oyster Pond Rd runoff are prime candidates). If so, *OPET* may consider applying for funds to build such catchment basins. **Any students out there who would like to do a science project on storm runoff next summer? *OPET* will pay for cost of materials and analyses!**

## WANTED!

**The Watershed** is looking for a volunteer editor and for any stories and observations, past or present, you might have about Oyster Pond; for photos of the pond and its surroundings; for your comments and opinion about *OPET*'s programs and activities -- in short, for *anything* that might be of interest to our readership.

Please contact us by e-mail at [brose@cape.com](mailto:brose@cape.com) or by mail at *OPET*, P.O. Box 496, Woods Hole, MA 02543-0496



## The Channel at the Weir: A Prime Spot for Fishing if You're a Green Heron



The Green Heron of the Weir

Photo by Larry Pratt

The narrow channel extending from Oyster Pond to the culvert near the juncture of Surf Drive and Oyster Pond Road is a cauldron of life and death. In the late summer and fall, it teems with thousands if not tens of thousands of young alewives trying to navigate the channel and culvert on their journey from Oyster Pond to Vineyard Sound. The 3 to 5" long juvenile fish face many dangers here: eels hiding among the rocks that line the channel, white perch awaiting them patiently in the culvert, cormorants and mergansers diving through the culvert in pursuit of them, and occasionally children (or OPET's Bob Livingstone) standing atop the weir with dip nets at the ready for an easy catch. Not an enviable journey for the small fry that so far already have had to escape, since they were spawned in Oyster Pond, predation by insect larvae, tadpoles, minnows, turtles, eels, other fish and birds. This year, the alewives' journey through the channel was further complicated, and ours enriched, by the presence of a Green-backed Heron there. This solitary creature could be seen daily in the vicinity of the weir, perched on the rocks near the water's edge, gulping down alewives, and apparently oblivious to the traffic only 15 feet away. On the day I shot the photos, the bird seemed to swallow more fish than could possibly be accounted for by its own volume. Since the black and white renditions cannot do justice to the ornate mixture of green, brown, and blue feathers and yellow beak and legs, I hope the bird will return next year for all to see in person. (You can view it in full colors, though, on the Watershed edition posted on our website, [www.opet.org](http://www.opet.org)) A prize to the first person who can tell from the photo whether the bird is a male or a female.

Larry Pratt (better known as Mindy Hall's husband)

## Will the Jetty Repair Keep Trunk River Running and the Pond at the Desired Height and Salinity Level?

The Army Corps of Engineers has given its stamp of approval for the repair work of the Trunk River jetties and the Trunk River channel itself. They also approved digging of the channel down to the level recommended by the designers of the weir that is to allow adequate but controlled salt water inflow into Oyster Pond. The proposal for this repair project had been initiated by OPET to at last put the weir to the test. Sand and eelgrass brought into the Trunk River system by even minor storm tides had built up to the point that the pond water level was up to 6" *higher* than the top of the weir, ever since its construction! The high pond level brought complaints from residents about water in their basements and about shore erosion on their properties. Salinity of the pond continued to fall to near-fresh water level (even salinity-sensitive frogs started to thrive in the pond), and the danger of pondweed infestation became a real one. The Department of Public Works submitted an article at Town Meeting and was granted the financing for the Trunk River Repair. Work was to begin in November, and the tension is mounting: Will the repaired jetties keep the Trunk River free-flowing (except after major storms, of course)? Will the weir fulfill our expectations and hold pond salinity at 2-4 ppt?



Trunk River Channel in Disrepair and Clogged

Photo by B. Rose



## Board Member News

### **Amendment to Bylaws Allows Smooth Transition of Board Membership**

One tell-tale sign that *OPET* is outgrowing infancy, is the turnover of its founding board members. This year, a whopping one third of the Board, namely five founding directors, completed their 5-year terms. To guarantee smooth continuity of *OPET*'s programs, the Board amended *OPET*'s Bylaws to permit a staggered turnover of founding directors by allowing some of them to serve 1 or 2 years longer than the maximum of 5 consecutive years. At the Annual Meeting, *OPET*'s membership sanctioned this amendment. Founding directors **John Dowling**, **Barry Norris** and **Dana Rodin** agreed to continue to serve, while **Stanley Hart** and **William Kerfoot** did not seek re-election. Non-founding board members **Carl Breivogel** and **Cheryl Peach** also stepped down. Every one of the former directors has contributed greatly to *OPET*'s operation, and they will be sorely missed! However, we know we can call on them any time for help and input -- and believe us, we do! Regretfully, **Robert Wilsterman** also resigned from the Board of Directors in September, due to an overload of other commitments (including to his two young daughters).

### **New Board Members**

*OPET* is fortunate to have recruited three new directors who bring a diversity of talent and at least one common interest, namely the well-being of Oyster Pond, to the Board. **Mindy Hall** of Oyster Pond Rd and her husband Larry Pratt have been generous financial supporters of *OPET* for many years. Mindy attended *OPET* board meetings throughout last year. She is a researcher with WHOI, studying deep sea currents at the equator. Nature conservation and volunteering at the Falmouth dog pound are high up in her non-professional agenda. **Christine Gault**, executive director of Waquoit Bay National Estuarine Research Reserve, moved to Ransom Road in May and was immediately courted by board members eager to tap into her vast expertise in everything concerning estuaries, water quality, nutrient overload, you name it. She is an avid kayaker and no doubt you have already seen her plying the waters of Oyster Pond. **Robert King** and his wife Ginny are sailors who have visited this area each summer for years. They have moved to Treetops because they were charmed by the view of Oyster Pond and the Sound. Robert headed various Marketing Research and Systems departments at General Foods before retiring to Falmouth. We are looking forward to his involvement in *OPET* efforts.

## Loss of a Bit of Oyster Pond History: the Emery House

K.O. Emery, the author of the classic study on Oyster Pond, *A Coastal Pond Studied by Oceanographic Methods*, a book reprinted by *OPET* in 1997, lived in a house on a bluff on the north end of Oyster Pond. The red house with white window trimmings commanded a view down the length of the pond clear across Vineyard Sound. Because of its double-sized lot and ample buffer of trees surrounding it, the Emery house, though small in size, held its own against the nearby bulk of Treetops buildings. Sadly, this historic building had to be torn down in the fall of 1999. But the house going up in its stead looks very similar, it and its septic system are set a bit farther back from the pond, and the surrounding vegetation remains intact.



The Emery House shortly before it had to be torn down in the fall of 1999

Photo by B. Rose

## A Great Christmas Gift Idea!

**Benefit your favorite school and *OPET* at the same time!** Here is the plan: middle and high school students always are on the lookout for science projects. The Emery book *A Coastal Pond*, published by *OPET*, is a great source for environmental projects involving watersheds and ponds. Buy 10 copies of the book from *OPET* (\$16.50 each or \$150.00 for 10, plus sales tax), donate them to the library of your favorite school and get a tax deduction for the value of the books! The book is also great for colleges with earth and environmental science departments! **Call 540-7345 to place your order or include a check with the donation form!**